The Commonwealth of Massachusetts

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. 05-7

Petition of The Berkshire Gas Company for Approval of its Long-Range Forecast and Resource Plan for the five-year period November 1, 2004 through October 31, 2009, pursuant to G.L. c. 164, §§ 69I et seq.

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I. INTRODUCTION AND PROCEDURAL HISTORY

On January 31, 2005, pursuant to G.L. c. 164, § 69I, The Berkshire Gas Company ("Berkshire") or ("Company") filed with the Department of Telecommunications and Energy ("Department") a petition for approval of its long-range forecast and supply plan for the period November 1, 2004 through October 31, 2009 ("Plan"). The petition was docketed as D.T.E. 05-7.

Berkshire, a subsidiary of Energy East Corporation, is a regulated natural gas distribution company headquartered in Pittsfield, Massachusetts. The Company serves approximately 35,000 customers in 20 communities in western Massachusetts.

Pursuant to notice duly issued, the Department conducted a public hearing and procedural conference on March 24, 2005. The Attorney General of the Commonwealth ("Attorney General") intervened as a matter of right, pursuant to G.L. c. 12, § 11E. The Department granted limited participant status to Blackstone Gas Company. An evidentiary hearing was held at the Department's offices on June 13, 2005. Berkshire presented three witnesses in support of its Plan: Karen L. Zink, president, chief operating officer, and treasurer of the Company; Jennifer Boucher, supervisor of rates and planning for the Company; and Michael S. Marks, president of Applied Energy Group. The evidentiary record includes 167 exhibits.

II. ANALYSIS OF THE LONG-RANGE FORECAST

A. Standard of Review

Pursuant to G.L. c. 164, § 69I, the Department is required to ensure "a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost." In accordance with this mandate, the Department reviews the long-range forecast of each gas utility to ensure that the forecast accurately projects the gas sendout requirements of the utility's market area. G.L. c. 164, § 69I. A forecast must reflect accurate and complete historical data, and reasonable statistical projection methods. Id.; 980 C.M.R. § 7.02(9)(b). Such a forecast should provide a sound basis for resource planning decisions. Bay State Gas Company, D.T.E. 02-75, at 2 (2004); The Berkshire Gas Company, D.T.E. 02-17, at 2 (2003); The Berkshire Gas Company, 16 DOMSC 53, at 56 (1987).

In its review of a forecast, the Department determines if a projection method is reasonable based on whether the methodology is: (a) reviewable, that is, contains enough information to allow a full understanding of the forecast methodology; (b) appropriate, that is, technically suitable to the size and nature of the particular gas company; and (c) reliable, that is, provides a measure of confidence that the gas company's assumptions, judgments, and data will forecast what is most likely to occur. D.T.E. 02-75, at 2; D.T.E. 02-17, at 2; Haverhill Gas Company, 8 DOMSC 48, at 50-51 (1982). Specifically, the Department examines a gas company's: (1) planning standards, including its weather data; (2) forecast method, including the forecast results; and (3) derivation and results of its design and normal sendout forecasts. See D.T.E. 02-75, at 2-3; D.T.E. 02-17, at 3; see also Boston Gas Company, D.P.U. 94-109

(Phase I) at 9 (1996). As part of the review of the forecast, the Department also examines the company's scenario analysis, which is used for evaluating the flexibility of the company's planning process, including any cold-snap analysis[1] and sensitivity analysis. D.T.E. 02-75, at 3; D.T.E. 02-17, at 3; Boston Gas Company, 25 DOMSC 116, at 200 (1992).

B. Previous Sendout Forecast Review

The last review of a forecast and supply plan for the Company was described by the Department in its decision in D.T.E. 02-17, in which the Company's forecast and supply plan was approved with directions for future filings. In that Order, the Department noted that Berkshire is the only local gas distribution company ("LDC") in the Commonwealth using heating degree days[2] ("HDD") instead of effective degree days[3] ("EDD") as input weather data, and directed the Company to perform a study on the benefits of using HDD versus EDD for its next filing. D.T.E. 02-17, at 13. The instant Order addresses the Company's compliance with the Department's directives in Berkshire's last forecast and supply plan.

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1 A cold snap is a prolonged series of days at or near design conditions. Colonial Gas Company, D.P.U. 93-13, at 66 (1995); Boston Gas Company, 25 DOMSC 116, at 217 (1992); Commonwealth Gas Company, 17 DOMSC 71, at 137 (1998).

2 A heating degree-day is a measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below 65 degrees.

3 An effective degree-day takes into account wind speed in determining the coldness of the weather.

C. Weather Data and Planning Standards

1. Weather Data

a. Description

The Company stated that it maintains a 53-year historical weather database for HDDs and an 18-year historical weather database for effective degree-days EDDs (Exh. BG-1, at 26). Currently, Berkshire collects weather data from two Company-maintained weather stations, one located at its headquarters in Pittsfield and the other at its Greenfield service center (id.). In addition, Berkshire testified that, as directed in D.T.E. 02-17, it analyzed the merits of using EDDs versus HDDs in its planning standards and now bases its planning standards on EDDs (id.).

Berkshire's design planning standards are based on an updated weather analysis performed by Management Applications Consulting, Inc. ("MAC") and the Applied Energy Group, Inc. ("AEG") (id.). According to MAC, the weather station located at the Company's headquarters has been in operation since 1970 (Exh. BG-1, Supp. Vol. 2, at 2). For consistency of data, MAC did not include in its study any data prior to 1970 (id.). MAC testified that in 1991, in performing a weather study for Berkshire, it investigated the benefits of disaggregating load and weather data according to the Company's operating divisions and found that doing so provided no mathematical advantage in estimating total system load (id. at 1). Therefore, in the present case, MAC relies upon the weather data solely from the Pittsfield weather station as a proxy for system-wide weather conditions (id.).

The MAC study includes an analysis of how HDDs and EDDs compare as a basis for predicting load (id. at 5-6). MAC performed a series of regression analyses to measure the relationship between load and degree days and between sendout and degree days (id.). Specifically, using data for the period June 1, 2002 to May 31, 2004, MAC plotted: (i) planning load (i.e., firm sales and firm, non-grandfathered transportation loads) against EDDs and alternatively against HDDs; (ii) sendout, (i.e., planning load adjusted for losses) against EDDs and then against HDDs; (iii) planning load against both degree days and lagged degree days[4] for both EDDs and HDDS; and (iv) sendout against degree days and lagged degree days for both EDDs and HDDs (id.). The Company's analysis demonstrated that the use of EDDs is more appropriate in predicting load (id. at 6).

Although the Company has an 18-year database of EDDs, the Company's weather consultant found that data to be insufficient and unreliable (Exh. BG-1, Supp. Vol. 2, at 3). The Company computes EDDs as a function of HDDs and average daily wind speed (id. at 3). In reviewing the wind speed data, MAC discovered that the wind speed data indicate a dramatic increase in wind speeds in the last several years[5] (id. at 4). MAC compared the wind data to wind measurements taken by the National Weather Service at the Albany International Airport and found that in Albany, New York, the annual sum of daily average wind speeds

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4 Lagged degree days are the degree days associated with the previous day. Previous MAC studies revealed that daily load is a function of both the current day's temperature and that of the previous day (Exh. BG-1, Supp. Vol. 2, at 6).

5 The wind speed for year 2003 was 250 percent higher than any year between 1988 and 1996 (Exh. BG-3, at 4).

varied slightly and showed a slight declining trend (id. at 7). Furthermore, although the wind speed in Pittsfield was approximately twice the wind speed in Albany over the most recent 24 months, the Company's earlier data indicate that the wind speed often registered less than ten percent of the Albany wind speed (id.). Therefore, MAC concluded that the earlier data should be rejected (id.). Instead, MAC conducted a regression analysis to develop a 30-year wind speed database calculated as a function of the wind speed recorded in Albany (id. at 8). MAC recommends that the Company either calibrate its wind speed measuring instrument or install a second instrument for verification purposes (id. at 9). MAC further recommends that the Company repeat the regression analyses in approximately two years to validate the reliability of its EDD data (id.).

b. Analysis and Findings

In Commonwealth Gas Company, 17 DOMSC 80, at 81 (1988), the Siting Council indicated that the use of EDDs is an enhancement to forecasting sendout requirements for large companies. The Siting Council also found that the use of representative EDD data is appropriate and reliable. Bay State Gas Company, 19 DOMSC 140, at 152-153 (1989). The Department recognizes the Company's concern about the validity of the wind speed data and the reliability of the EDD database. Despite these concerns, the EDD database provided a stronger basis for predicting load than the HDD database (id. at 6). The Department also notes that Berkshire's current planning standards are comparable to those of other similar regional utilities. In addition, the Department acknowledges the flexibility of the Company's portfolio and its ability to meet customer's needs at extreme weather. Therefore, the Department finds

the results of the Company's weather analysis to be reviewable and appropriate but not reliable, and directs the Company in its next filing to discuss how it has implemented MAC's recommendations.

2. Planning Standards

a. Introduction

The Company summarized the MAC and AEG planning standards recommendations as follows: (1) a design year of 8,118 EDDs; (2) a five-month design winter of 6,372 EDDs; (3) a ten-day cold snap of 661 EDDs; and (4) a minimum design day planning criterion of 80.5 EDDs (Exh. BG-1, at 27). In determining its design day and design year standards, the Company stated that it performed a cost/benefit analysis which the Company claims confirms that its standards are appropriate (id. at 29). Berkshire contends that the results of the development of its design standards are confirmed by comparison to standards applied by other utilities (id. at 26). Furthermore, the Company argues that it recently experienced a design day and cold snap at or near the established level (id.).

b. Normal Year Standard

(i) Description

The Company indicated that it relied on the EDD database developed by MAC to derive its normal year standard, because Berkshire's EDD database spanned only 18 years. In particular, Berkshire indicated that it calculated its normal year standard as the arithmetic average of EDDs for the most recent 20 year period (id. at 27). The Company states that the

use of updated EDD data ensures that the resource planning process reflects the normal year pattern more accurately (id.) The Company's Normal Year standard is 7,293 EDDs (id.).

(ii) Analysis and Findings

The Department has historically accepted the use of the arithmetic average of historical degree day data to establish a normal year standard. See D.T.E. 02-17, at 7; North Attleboro Gas Company, D.T.E. 01-47, at 7 (2001); Fall River Gas Company, D.T.E. 99-26, at 5-6 (2000). Because Berkshire bases its normal year standard on an historical average of the up-to-date weather database and its planning standards on this database, the Department finds that Berkshire's method for determining its normal year standard is reviewable, appropriate and reliable.

c. Design Year Standard

(i) Description

The Company established a design year of 8,118 EDDs using a one-in-30 year probability (Exh. BG-1, at 31). The Company states that although the total EDDs for the year 1978 was 8,635, the Company's design year analysis places emphasis on the winter period and the winter period component of its proposed design year standard has not been exceeded (id.). The design one-in-30 year design winter is 6,372 EDDs (id.).

Berkshire testified that it performed a cost/benefit analysis to compare the net benefits of a range of standards for both design year and design day (id. at 29). According to the Company, the design year cost/benefit analysis was conducted in a manner previously accepted by the Department and confirms that Berkshire's resource plan is based upon appropriate

standards (id.) Using the results of its econometric load models, AEG calculated the incremental annual sales levels associated with a series of increments of 100 HDDs above normal year levels (Exh. BG-2, at 56). AEG then computed a high-cost and low-cost estimate to serve each load increment, basing its low-cost estimate on long-haul supplies and its high-cost estimate on a mix of long-haul supplies, LNG, and propane (id.). AEG next sought to determine the societal cost of a curtailment of service by the Company (id.) AEG based its computation of the societal costs on annual gross domestic product ("GDP") estimates for the counties served by the Company (id.). These county-wide GDP figures were multiplied by the percentage of each county's total population that Berkshire actually serves (id.). Finally, AEG assumed that the Company would only curtail service within the medium and large commercial and industrial ("C&I") classes, which represent 46 percent of all C&I load (id. at 60). By modeling the expected lost production levels associated with curtailment against the expected cost of meeting all load at each increment of 100 HDDs, AEG determined the equilibrium point would occur at approximately 7,750 HDDs (id.). For comparison, the weather study performed by MAC resulted in a design year of 7,761 HDDs under a one-in-30 year probability, assuming the design year were based on HDDs instead of EDDs (Exh. BG-3, at 11.)

AEG noted that its cost/benefit analysis is subject to significant uncertainty due to the ability to forecast or estimate key inputs, and therefore recommends that the analysis not be used as the primary basis for planning standards (Exh. BG-2, at 62). According to MAC, although a cost/benefit analysis is attractive from a theoretical standpoint, quantification of the

actual costs and benefits can be difficult (Exh. BG-3, at 10). Therefore, MAC considers a one-in 30 year recurrence probability as the basis for planning criteria, until the cost/benefit analyses are deemed reliable (id.).

The Company asserts that its design year standard is appropriate given the flexibility of its resource plan and that its planning standard is consistent with those of other utilities (Exh. BG-1, at 32).

(ii) Analysis and Findings

In its Gas Generic Order, 14 DOMSC 95, at 97 (1986), the Massachusetts Energy Facilities Siting Council ("Siting Council") notified gas companies that renewed emphasis would be placed on design criteria "to ensure that those criteria bear a reasonable relationship to design conditions that are likely to be encountered." The Siting Council required each company, in each forecast filing, to include a detailed discussion of the basis upon which it selected the design criteria, with particular attention to the frequency with which design conditions are expected to occur, and to the effect of the design standard on the reliability of the company's forecast and the cost of its supply plan. Id. at 96-97, 104-105.

The Department finds that the Company's probabilistic analysis is reviewable, appropriate, and reliable (Exh. BG-1. at 31). The Department also finds that the Company's probabilistic standards are consistent with those of similar local distribution companies in Massachusetts. We further find that the Company appropriately conducted a cost benefit analysis of the cost of unserved demand and the effects of planning to EDD rather than HDD standards, as required by the Department in D.T.E. 02-17. Therefore, the Department finds

Berkshire's method for determining its design year and winter standards is reviewable, appropriate and reliable.

d. Design Day Standard

(i) Description

Berkshire has proposed a design day standard of 80.5 EDDs with a probability of occurrence of one-in-30 years (Exh. BG-1, at 28). According to the Company, the weather study revealed that it is not uncommon for a decade to be much warmer than a long-term average, and if only 20 years of data were employed for planning purposes the sample deviation could be significantly different from the population's standard deviation (Exh. BG-3, at 9). Berkshire indicated that it experienced an actual design day of 82 EDDs on January 15, 2004, and that its ability to provide reliable service on that day demonstrates the flexibility and responsiveness of its resource planning process (Exh. BG-1, at 28). Berkshire also notes that its probabilistic design day standard is consistent with that of other regional utilities (id. at 29).[6]

Berkshire testified that the appropriateness of its design day standard is confirmed by the cost/benefit analysis performed to compare the net benefits of a range of design standards (id.). The Company's cost/benefit analysis for meeting incremental load under design-day conditions was conducted in similar fashion to its design year cost/benefit analysis and resulted in an equilibrium point of 80.5 EDDs (Exh. BG-2, at 67-69).

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6 Berkshire participated in a design standard survey of New England gas utilities that was performed by Boston Gas Company (Exh. BG-1, at 29).

(ii) Analysis and Findings

Berkshire's method for developing a design day standard is similar to the Company's development of a design year standard (see Section II.C.2.c above). The Department finds that Berkshire has complied with Department precedent in terms of the use of probabilistic analysis. The Department also finds that the Company's probabilistic standards are consistent with those of similar local distribution companies in Massachusetts. We further find that the Company appropriately conducted a cost benefit analysis of the cost of unserved demand and the effects of planning to different standards, as required by the Department in D.T.E. 02-17. Therefore, we find that Berkshire's methodology for determining its design day standard is reviewable, appropriate and reliable.

e. Cold Snap Standard

(i) Description

The Company proposes to employ a one-in-30 year cold snap standard of 661 EDDs (Exh. BG-1, at 31). The Company stated that a cold snap is defined as extreme cold weather occurring over ten consecutive days (Exh. BG-2, at 71). Berkshire believes that this standard is appropriate, particularly considering the January 2004 cold snap of 635 EDDs (Exh. BG-1, at 31).

(ii) Analysis and Findings

The Department notes that Berkshire developed its cold snap standard using 30 years' worth of data that are reliable and representative of weather conditions in its service territory (id.). The Department further notes that Berkshire developed its cold snap standard using a

definition of a cold snap as ten consecutive days of very cold weather. The Department notes that this definition is comparable to the definitions approved by the Department in the recent past. D.T.E. 02-17, at 12. The Department finds that Berkshire used appropriate statistical methods to develop its cold snap planning standard. Therefore, the Department finds Berkshire's cold snap standard to be reviewable, appropriate and reliable.

D. Forecasting Methods

1. Berkshire's Forecasting Model

The Company stated that it retained the services of AEG to develop the forecast (Exh. BG-2, at 3-4).[7] The Company stated that the forecasting methodology relies upon exogenous variables such as weather, customer levels, pricing and availability of alternate fuels, personal income and employment, retail sales, GDP, as well as the demand for, and pricing of, natural gas (Exh. BG-1, at 11). Berkshire states that all variables used in the demand forecast are representative of the market forces in the Company's service territory (Exh. DTE-1-9).

The Company used econometric modeling to forecast sales and throughput (Exh. BG-1, at 11). Further, the Company notes that its forecasting model inherently captures the load reductions resulting from the implementation of demand-side management ("DSM") programs (Exh. BG-1, at 12).

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7 The Company stated that the sales forecast uses similar econometric modeling techniques as used in its previous Forecast and Supply Plan (Exh. BG-2, at 3-4 citing D.T.E. 02-17).

2. Econometric Forecasting

a. Description

The Company used ten years of historical monthly sales data (1994/95-2003/2004) for each customer class, and stated that these historical data sets provide a credible history upon which to forecast future trends in gas sales (Exh. BG-2, at 50). Further, the Company stated that monthly data provided a robust estimation of seasonal factors such as weather (id. at 5). Variations in billing cycles were captured through monthly degree-day variables that were tailored specifically for each rate class billing cycle (id.).

Regarding Berkshire's modeling strategy, the Company stated that regression analysis was its first choice, and that other techniques were also employed to produce superior statistical measures of accuracy (id. at 8). The Company stated that it evaluates different models based on a combination of some or all of the following criteria: (1) analysis of residuals and traditional "goodness of fit" measures; (2) analysis of the reasonableness of the forecast generated by the models, and; (3) analysis of the reasonableness and sign of the coefficient for each of the explanatory variables (id. at 11).[8]

The results of Berkshire's demand forecast show that the overall growth rate between 2004 and 2009 is projected to be approximately 6.7 percent (id. at 12). In addition, the Company projected an increase in the number of customers by 3.4 percent over the forecast period, from 35,262 in 2005 to 36,464 in 2009 (Exh. BG-1, at 12).

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8 The Company explained that the residual analysis and the traditional "goodness of fit" measures are used to determined how well models fit the historical data and whether there were any statistical problems such as autocorrelation (Exh. BG-2, at 11).

The Company stated that its marketing and DSM programs have had an effect on the C&I forecast (id. at 15). Berkshire stated that it attempts to convert both residential and C&I customers to heating load (id.).[9] This increase in heating load has stabilized or increased use per customer in the low load, or heating, classes (id.). At the same time, the Company noted that because it has had conservation programs for its C&I customers since the early 1990s, much of the market has been saturated (id.). Thus, the conservation levels reflected in the forecast are based on the historical data that already reflect load reductions due to conservation (id.).

b. Analysis and Findings

The Department finds that Berkshire: (1) used a theoretically well-founded forecasting technique using demographic and economic variables that were specific to the Company's service territory; and (2) analyzed the predictive ability of its forecast models (Exh. BG-1, at 11-32). Therefore, the Department finds that the forecasting model developed by Berkshire is reviewable, appropriate and reliable for forecasting the normal year and design year sendout for the Company's residential and C&I rate classes.

9 The Company's primary marketing programs include: (1) incentives to existing non-heating customers who add natural gas heating to their home or business; (2) promoting the use of natural gas to add loads that generate the highest margins and require the least amount of capital spending (Exh. BG-1, at 7-8).

3. Transportation Forecast

a. Description

Berkshire forecasted that the amount of capacity assigned to suppliers over the forecast will remain relatively stable (Exh. BG-1, at 23-24). The Company's recent experience of transportation service has been more in the nature of customers' switching between suppliers rather than converting from sales to transportation service (id. at 24). Thus, the Company indicated that the total forecasted transportation volumes will slightly increase from 1,550 MMcf in the split year 2004-2005 to 1,660 MMcf in the split year 2008-2009 (Exh. BG-2, at 54).

The Company asserted that the accelerated movement of customers in the second half of 2001 from sales to transportation service disrupted any trend that might be statistically estimated (id. at 53). As a result, the Company stated that the transportation forecasts were derived by deducting the firm sales forecast from the throughput forecast for each rate class (id.).[10] The six C&I rate class transportation forecasts were summed to arrive at a total transportation forecast (id.).

The Company indicated that the average number of C&I transportation customers forecasted will remain relatively stable during the forecast period from 654 in the split year 2004-2005 to 661 in the split year 2008-2009 (Exh. BG-2, at Table G3-A&B(T)). Further, the

10 In the case of both residential heating and non-heating classes of service, as well as company use, there is no difference between sales and throughput (Exh. BG-1, at 11).

Company forecasted that all new-to-the-system small and medium C&I customers[11] will elect firm sales service and that all new-to-the-system large C&I customers will elect transportation service, because typically, large C&I customers are well-informed and have loads that are desirable to suppliers (Exh. BG-1, at 23).

b. Analysis and Findings

Berkshire indicated that it expects the number of firm transportation customers to remain stable throughout the forecast period (id. at 23-24). Based on the information available to the Company at the time Berkshire prepared its current filing, the Department finds that Berkshire's method for determining its transportation volumes and number of firm customers is reviewable, appropriate and reliable.

4. Normal and Design Year Sendout Forecast

a. Description

The design year is used to project sales, by class, assuming extreme winter conditions (Exh. BG-2, at 55). Berkshire stated that in order to incorporate this information into the forecast models, the design year values were adjusted by rate class to reflect billing cycles (id.). According to the Company, the adjustment of HDD by rate class to reflect billing cycles was necessary because the HDD data are based upon a calendar month, while customers in the

11 Berkshire asserted that this is a change from its previous forecast and supply plan, where the Company forecasted that all new-to-the-system medium C&I customers would elect transportation service (Exh. BG-1, at 23). According to the Company, the last time a new-to-the-system medium C&I customer elected transportation service from the onset was more than two years ago in March 2003 (RR-DTE-4).

various rate classes are billed periodically during each month by billing cycle (Exh. DTE-1-58).

Berkshire indicated that its normal year total sendout for the heating season will increase from 3,013 MMcf for the 2004-2005 split year to 3,202 MMcf for the 2008-2009 split year (Exh. BG-1, at Table G22 NH). Berkshire further stated that its design year sendout for the heating season will increase from 3,390 MMcf in the 2004-2005 split year to 3,602 MMcf in the 2008-2009 split year (id.).

b. Analysis and Findings

Berkshire appropriately incorporated the normal and design year weather data into the forecasting model to obtain its sendout forecast (Exh. BG-1, at 27, 31). Berkshire also prepared separate forecasts for heating and non-heating sales for the planning period both for normal and design conditions as developed in Section II.C (id. at 13). Consistent with the findings in Section II.D.2.b., the Department finds that the normal and design year sendout forecasts are reviewable, appropriate and reliable.

5. Design Day Sendout Forecast

a. Description

The Company stated that a design day forecast was developed by first performing a regression analysis for daily sendout versus EDD and EDD lagged one day (Exh. BG-2, at 63). Berkshire stated that March and December were also tested to account for differences in sensitivity of weather based upon the time of the year (id.). Then, individual regression models were developed for the five most recent split years (id.). Next, Berkshire solved each

regression model for the seven coldest days in each year and computed the average error for these seven years (id. at 66). Finally, the Company solved a regression for the design EDD of 80.5 and for the lagged EDD of 67.58 and adjusted the result by the average error previously obtained (id.). Berkshire indicated that its design day sendout increases from 55 MMcf for the 2004-2005 split year to 61 MMcf for the 2008-2009 split year (id. at Table G23).

b. Analysis and Findings

The Company projected an increase in the design day sendout from 55 MMcf for the 2004-2005 split year to 61 MMcf for the 2008-2009 split year. The Department notes that the Company used the most recent data to model its daily sendout models as well as an appropriate statistical technique. The Department finds that the Company's design day sendout forecast is reviewable, appropriate and reliable.

6. Cold-Snap Sendout Forecast

a. Description

The Company stated that a cold snap is defined as extreme cold weather occurring over ten consecutive days (Exh. BG-2, at 71). Berkshire stated that it maintained the 620 HDD approved by the Department in D.T.E. 02-17, at 12 (id. at 12). The Company then solved each of the ten days using the EDD/sendout regression model that was developed for the split year and computed the cold-snap sendout (id. at 71).[12] Berkshire indicated that its cold-snap

12 The Company noted that it selected the daily sendout regression model for the split year 2003/2004 because it was a recent winter and because there was a cold snap between January 7 and January 16 (629 EDD) in 2004 that was within 95 percent of the Company's selected design cold snap (Exh. BG-2, at 71).

sendout increases from 485 MMcf for the 2004-2005 split year to 540 MMcf for the 2008-2009 split year (id. at 72).

b. Analysis and Findings

Berkshire's methodology for developing a cold-snap sendout is similar to the Company's development of design day sendout (see Section II.D.5 above). Therefore, the Department finds that the Company's cold-snap sendout forecast is reviewable, appropriate and reliable.

E. Conclusion on the Sendout Forecast

In its current filing, Berkshire used a theoretically well-founded forecasting technique suitable to the size and nature of the Company to project number of customers, and uses per customers or sales by customer class over the forecast period. The Department notes that Berkshire utilized the predictive ability of its forecast model. For these reasons, the Department finds Berkshire's forecast of total sendout to be reviewable, reliable, and appropriate.

III. ANALYSIS OF THE SUPPLY PLAN

A. Standard of Review

The Department is required to ensure "a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost." G.L. c. 164, § 69I. In fulfilling this mandate, the Department reviews a gas company's supply

planning process and the two major aspects of every utility's supply plan: adequacy and cost.[13] Commonwealth Gas Company, D.P.U. 92-159, at 53 (1995); D.P.U. 93-13, at 49-50; 25 DOMSC 116, at 201.

The Department reviews a gas company's five-year supply plan to determine whether the plan is adequate to meet projected normal-year, design-year, design-day, and cold-snap firm sendout requirements. 25 DOMSC 116, at 201. The Department's review of reliability, another necessary element of a gas company's supply plan, is included in the Department's consideration of adequacy. See D.T.E. 99-26, at 18; D.P.U. 93-13, at 50, n.22; 25 DOMSC 116, at 201, n.87. In order to establish adequacy, a gas company must demonstrate that it has an identified set of resources that meet its projected sendout under a reasonable range of contingencies. 25 DOMSC 116, at 201, n.87. If a company cannot establish that it has an identified set of resources which meet sendout requirements under a reasonable set of contingencies, the company must then demonstrate that it has an action plan which meets projected sendout in the event that the identified resources will not be available when expected. D.P.U. 96-18, at 31; D.P.U. 92-159, at 54; D.P.U. 93-13, at 50.

In its review of a gas company's supply plan, the Department reviews a company's overall supply planning process. D.P.U. 92-159, at 53. An appropriate supply planning process is essential to the development of an adequate, low-cost, and low environmental impact resource plan. Id. Pursuant to this standard, a gas company must establish that its supply

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13 G.L. c. 164, § 69I also directs the Department to balance cost considerations with environmental impacts in ensuring that the Commonwealth has a necessary supply of energy. D.P.U. 96-18, at 31; D.P.U. 92-159, at 53; D.P.U. 93-13, at 50.

planning process enables it to (1) identify and evaluate a full range of supply options, and (2) compare all options including demand side management ("DSM") on an equal footing. D.P.U. 96-18, at 31; D.P.U. 92-159, at 54; D.P.U. 93-13, at 51; 25 DOMSC 116, at 202.

Finally, the Department reviews whether a gas company's five-year supply plan minimizes cost. 25 DOMSC 116, at 203. A least-cost supply plan is one that minimizes costs subject to trade-offs with adequacy and environmental impact. D.P.U. 92-159, at 55; D.P.U. 93-13, at 51-52; 25 DOMSC 116, at 203. Here, a gas company must establish that application of its supply planning process has resulted in the addition of resource options that contribute to a least-cost plan. D.P.U. 92-159, at 55.

B. Previous Supply Plan Review

The Department approved Berkshire Gas' supply plan for the years 2001-2002 through 2006-2007 in docket D.T.E. 02-17. The Department found that Berkshire had established that the Company had adequate supplies to meet its normal year, design year, design day, and cold-snap forecast sendout requirements throughout the forecast period. Id. at 33. In addition, the Department found that Berkshire developed: (1) appropriate criteria for screening and comparing supply-side resources and demand-side resources; and (2) a mechanism to undertake the comparison of resources on an equal basis. Id. at 42. Finally, the Department found that the Company's supply planning process as a whole may lead to the addition of resources that contribute to a least-cost supply plan. Id.

C. Supply Planning Process

1. Standard of Review

The Department has determined that a supply planning process is critical in enabling a utility company to formulate a resource plan that achieves an adequate, least-cost and low environmental impact supply for its customers. The Berkshire Gas Company, D.P.U. 94-14, at 36 (1994); D.P.U. 93-13, at 70; 25 DOMSC 116, at 223; Boston Gas Company, 19 DOMSC 332, at 388 (1990). The Department has noted that an appropriate supply planning process provides a gas company with an organized method of analyzing options, making decisions, and reevaluating decisions in light of changed circumstances. D.P.U. 94-14, at 36; D.P.U. 93-13, at 70; 25 DOMSC 116, at 223; 19 DOMSC 332, at 388. For the Department to determine that a gas company's supply planning process is appropriate, the process must be fully documented. D.P.U. 93-13, at 70; 25 DOMSC 116, at 223.

The Department's review of a gas company's process for identifying and evaluating resources focuses on whether the company: (1) has a process for compiling a comprehensive array of resource options -- including pipeline supplies, supplemental supplies, DSM, and other resources; (2) has established appropriate criteria for screening and comparing resources within a particular supply category; (3) has a mechanism in place for comparing all resources, including DSM, on an equal basis, i.e., across resource categories; and (4) has a process that, as a whole, enables the company to achieve an adequate, least-cost, and low environmental impact supply plan. D.P.U. 94-140, at 37; D.P.U. 93-13, at 70; 25 DOMSC 116, at 224; 19 DOMSC 332, at 54-55.

The Department reviews a gas company's five-year supply plan to determine whether it minimizes cost, subject to trade-offs with adequacy and environmental impact. D.P.U. 94-140, at 37; D.P.U. 93-13, at 88; 25 DOMSC 116, at 236. A gas company must establish that the application of its supply planning process, including adequate consideration of DSM and consideration of all resource options on an equal basis, has resulted in the addition of resource options that contribute to a least-cost supply plan. D.P.U. 94-140, at 37; D.P.U. 93-13, at 83; 25 DOMSC 116, at 233; The Berkshire Gas Company, 14 DOMSC 107, at 115 (1986). As part of this review, the Department requires gas companies to show, at a minimum, that they have completed comprehensive cost studies comparing the costs of a reasonable range of practical supply alternatives prior to selection of major new resources for their supply plans. D.P.U. 94-140, at 37; D.P.U. 93-13, at 89; 25 DOMSC 116, at 236; 1986 Gas Generic Order, 14 DOMSC 95, at 100-102 (1986).

2. Identification and Evaluation of Resource Options

a. Supply-Side Resources

Berkshire stated that the Company maintains the objective of providing a reliable and least-cost service with a minimum environmental impact under normal and design conditions in designing its resource portfolio, and that the Company bases the design of its resource portfolio on the Company's forecast of firm sendout under these conditions (Exh. BG-1, at 33). The Company stated that it employs the Gas Supply Dispatch Optimization Model to evaluate the particular mix of resources that should be included in the least-cost analysis (id.).

The Company explained that it uses firm third party-supply from South Texas and Louisiana, and Canadian supply from Niagara Falls, New York, and firm transportation on Tennessee Gas Pipeline Company's ("Tennessee") system to meet its base load requirements (Exh. BG-1, at 33). To meet its seasonal load requirements, the Company uses storage gas located in New York, Pennsylvania and West Virginia with additional firm transportation on the Tennessee system from those locations to Berkshire's meter stations (id.). The Company stated that it serves peaking loads with a combination of both LNG back-haul deliveries on the Tennessee system as well as LNG liquid vaporized at Berkshire's facility in Whately, Massachusetts (id.). In addition, the Company meets its peak load requirements by using peaking resources located within its service territory, including local propane production at two of its peak shaving facilities and its ongoing DSM programs (id. at 33-34).

The Company stated that another important objective in designing its overall resource plan is to ensure a reasonable diversification of supply resources, as well as the maintenance and operation of a sound distribution system, which takes into account future demand growth on its system (id., at 35). The Company indicated that it continually monitors and evaluates its resource plan on a daily, weekly, and monthly basis within the context of its "least-cost supply strategy," so that the Company can release those resources it no longer needs (id. at 34).

Berkshire highlighted a number of changes in the market and in the regulatory environment that have affected the Company's resource planning process (id. at 35-42). These changes include: (1) gas unbundling and customer choice in Massachusetts; (2) portfolio optimization opportunities with BP Energy Company ("BP Energy") and the other Energy East

companies; (3) pipeline and regional supply project changes; and (4) potential reverse migration of "grandfathered"[14] transportation customers to sales (id.). The Company noted that gas unbundling and customer choice in Massachusetts have given all of its customers the opportunity to choose the supplier of their natural gas commodity as of November 1, 2000 (Exh. BG-1, at 36).

Regarding the portfolio optimization opportunities through the Energy East/BP Energy Alliance, the Company stated it is currently in the "third generation" of its Gas Portfolio Optimization Agreement and Gas Sales and Purchase Agreement with BP Energy and the other Energy East LDCs (id.).[15] The Company explained that it has been pleased with the performance of the Energy East/BP alliance, especially during the changing market and states that substantial savings have been achieved (id. at 37).

Berkshire stated that nine new pipeline and regional supply project changes will be developed during the forecast period (Exhs. BG-1, at 49-52; DTE-2-1). The Company noted that since many of these projects will have a direct impact on Berkshire's customers, and all of

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14 In Natural Gas Unbundling, D.T.E. 98-32-B (1999), the Department determined that firm sales customers converting to firm transportation service after the date of the Order (i.e., February 1, 1999) would be allocated a pro-rata share of a local gas distribution company's design day capacity resources (i.e., upstream pipeline capacity, storage, and LNG) that marketers may then use to serve their requirements. See D.T.E. 98-32-B at 34, 40-42. These customers are referred to as "capacity eligible." The Department further determined that firm sales customers who converted to firm transportation service prior to February 1, 1999, would be exempt from capacity assignment. See Id. These are referred to as "grandfathered customers."

15 The other Energy East LDCs are Connecticut Natural Gas Corporation, NYSEG, Rochester Gas & Electric, and the Southern Connecticut Gas Company.

them "will help in contributing to meet the regions requirements and maintaining stable and economical natural gas prices" it will continue to monitor the progress of these projects in terms of facility development (Exh. BG-1, at 42).

Berkshire adopts a three-step process when designing its resource portfolio (id.). These steps include: (1) identification of the resources the Company needs on a daily, seasonal and annual basis as well as during a design day, a cold snap, or a design year scenario; (2) a comparison of the resources that are available to meet all of the Company's requirements; and (3) a selection of the resources to be included in the portfolio based on both price and non-price factors, including price, length of contract and flexibility (id. at 43). The Company stated that it meets its daily and seasonal resource requirements with a combination of long-haul and short-haul transportation capacity on the Tennessee system and corresponding gas supply volumes to be delivered using this capacity (id.). However, during peak periods, the Company supplements these resources with a combination of LP, LNG, and other supplemental resources to serve its firm customers (id.).

b. Demand Side Management Programs

The Company states that it offers a comprehensive range of demand-side management and market transformation programs ("DSM/MT") to its residential and C&I customers (id. at 9). Berkshire's most recent DSM/MT program was approved in The Berkshire Gas Company, D.T.E. 04-38 (2004). The Company states its strong customer participation levels have enabled Berkshire to defer major capital investments necessary for reliability of service (id.). As a result of the implementation of the Company's DSM and other conservation

programs over the past five years, the residential class has experienced 51,900 Mcf in load reductions while the C&I class has experienced 128,500 Mcf in load reductions (Exh. DTE-2-16). Berkshire projects approximately 103,199 Mcf of savings through DSM and other conservation programs over the next five years (id.).

c. Scenario Analysis and Contingency Planning

Berkshire stated that as part of its supply planning process, the Company analyzed its resource plan under different scenarios of sendout to ensure that the Company could provide reliable, least-cost service to its customers (id. at 59). The Company noted the stagnant economic growth in its service territory, which it expects to continue in the foreseeable future, and concluded that a lower sendout scenario was more plausible than a higher sendout scenario during the forecast period (id.).

Berkshire explained that because of the current mandatory capacity release program which provides migrating customers with the necessary capacity rights, its sendout requirements and pipeline capacity will continue to decline in proportion to the number of migrating customers during the forecast period (id. at 60). The Company expects that this pattern will continue (id.). In conclusion, Berkshire stated that it designed its resource portfolio with sufficient flexibility so that it can continue to provide reliable and least-cost service to customers under different scenarios of customer migration and economic growth (id.).

d. Distribution Planning

Berkshire stated that its integrated resource planning process must reflect the requirements of diversification of supply resources as well as the maintenance and operation of an adequate and reliable distribution system (id.). The Company stated that distribution capacity has long been a concern in the Greenfield division, but the Company has recently addressed this problem by installing the Whately LNG facility as a peaking resource (id. at 69). However, with more customers migrating to transportation service, the concern over distribution capacity has become an important issue for Berkshire's entire distribution system (id.). The Company stated that it analyzes and updates its existing distribution system models on a routine basis, and, based on the analysis in 2002, the Company concluded that it was appropriate to initiate construction of a third storage tank at the Whately facility. However, due to the greater distribution system capacity from the transportation agreement with the University of Massachusetts, the Company is able to defer the need for such construction at the Whately facility (id. at 61).

e. Summary of Supply-Side Resources and Facilities

The Company provided a detailed list of supply-side resources that are available to meet Berkshire's firm sendout requirements during the forecast period (id. at 62-71). These resources are shown in Table 1 below. The resources include five firm transportation contracts, two firm storage contracts, five gas supply contracts, two peaking supplies, and two supplemental facilities (id.).

3. Conclusions on the Supply Planning Process

The Department finds that Berkshire evaluated its resource options based on price and non-price factors, including pricing parameters, length of contract, operating conditions, diversity of supply, and other terms and conditions, and that the Company arrived at a final resource portfolio that includes a reasonable mix of short-term and long-term resources, peaking and supplemental resources, as well as demand-side resources.

The Department notes that the Gas Supply Dispatch Optimization Model used by the Company to evaluate and compare the mix of resources that it will require to meet the daily projected sendouts on a least-cost basis is widely used in the industry, and, therefore, appropriate in this case.

With regard to Berkshire's scenario analysis and contingency planning, the Department finds that the Company's assumptions regarding customer migration, economic growth in its service territory, and demand growth on its system during the forecast period are reasonable. The Department finds that the Company built sufficient flexibility into its resource portfolio to meet contingencies, including disruptions in the supply of LNG to its facilities for security or other reasons. Furthermore, Berkshire's affiliation with the other Energy East LDCs and the Company's participation in the Energy East/BP Energy Alliance will provide it with access to resources which hitherto it did not have (Exh. DTE-1-37).

Finally, the Department notes that Berkshire has not had any major problems serving customers' needs during peak or non-peak periods in the past five years, nor has the Company interrupted gas service to its firm sales customers during the past five years with the exception

of rare occasion to perform system improvement. The Department finds that the process Berkshire followed in developing its resource portfolio is reasonable and consistent with earlier Department decisions. See D.T.E. 02-17 (2002); The Berkshire Gas Company, D.T.E. 98-99 (1999); The Berkshire Gas Company, D.P.U. 93-187 (1994).

In conclusion, the Department finds that Berkshire: (1) formulated an appropriate process for identifying a comprehensive array of supply options, and has developed appropriate criteria for screening and comparing supply resources; (2) formulated an appropriate process for identifying a comprehensive array of DSM programs, and has developed appropriate criteria for screening and comparing DSM resources; (3) incorporated both supply-side and demand-side options in its resource mix; (4) possesses a distribution system that is adequate to meet customers' needs during the forecast period; and (5) developed a reasonable contingency plan to provide reliable service to customers during the forecast period. Accordingly, the Department finds that the Company has an appropriate supply planning process, and that the Company's supply planning process is reviewable, appropriate, and reliable.

D. Base Case Supply Plan

In this section, the Department reviews the Company's supply plan and identifies elements that represent potential contingencies affecting the adequacy of supply or that potentially affect the cost of the supply plan. The Department reviews the adequacy of the Company's supply plan, the Company's supply planning process, and the cost of the Company's supply plan.

1. Supply-Side Resources

The Company stated that its portfolio of firm pipeline-transported gas supply at the time of its filing consists principally of one purchase contract for domestically-produced gas and one purchase contract for Canadian-produced gas (Exh. BG-1, at 67-68). The Company indicated that the domestic contract provides for up to 10,553 MMBtus per day of firm supply (id.). The Company's Canadian supply contract provides up to 1,057 MMBtus per day (id. at 64).

Berkshire stated that its interstate pipeline capacity available to meet system requirements and fill underground storage fields can be separated into three segments (id. at 62). First, the Company maintains "long-haul" capacity of 14,751 MMBtus per day from the gas producing regions (id.). The second component is the "short haul" capacity used to transport gas from underground storage fields in Pennsylvania, New York and West Virginia (id.). The Company has 15,854 MMBtus per day of such capacity (id.). The third component is the 1,057 MMBtus per day of capacity used to deliver Canadian gas (id.).

The Company stated that it also maintains two separate contracts for storage services (Exh. BG-1, at 44-47). These contracts are with Tennessee Gas Pipeline Company ("Tennessee") and Dominion Transmission Incorporated (id.). The maximum daily withdrawal quantity for these resources is approximately 15,857 MMBtus (id.).

The Company also stated that, during the heating season, its supply and storage volumes are supplemented by liquified natural gas ("LNG") vaporized from the Whately LNG facility and propane dispatched from several propane facilities within the Company's service

territory (id. at 80-81; Tr. at 35-36). The Company's use of propane is limited by on-site storage capacity and trucking restrictions (Exh. BG-1, at 70).

The Company maintains a contract with Distrigas of Massachusetts ("DOMAC") for the delivery of up to 2,000 MMBtus per day of LNG (id. at 68-69). The LNG can be taken as liquid to vaporize at the Company's LNG facility in Whately, to maintain system pressures, or as displacement gas from the interstate pipeline delivered to the Company's city gate (id.). The Company noted that such peak service rights have secured substantial cost savings for the benefit of the Company's customers (id. at 71).

2. Demand Side Management and Market Transformation

Berkshire stated that it offers a comprehensive range of DSM/MT programs to its residential, commercial and industrial customers (Exh. BG-1, at 9). The Company further states that the approval of its filing in D.T.E. 04-38, has allowed Berkshire to apply its DSM programs and defer major capital investments necessary for reliable service (id.). Berkshire holds that it cooperates and coordinates market transformation programs with regional participants such as the Center for Ecological Technology, Massachusetts Electric Company, and Western Massachusetts Electric Company (id.). The Company further indicates that its DSM programs experience a high level of participation from low-income customers (id. at 10). Finally, regarding its DSM programs targeting C&I customers, the Company states that these programs incorporate audits and engineering services (id.). As a result, the Company has performed audits at the facilities of over 2,000 of its Commercial and Industrial customers (id.).

E. Adequacy of the Supply Plan

Under this section, the Department analyzes and reviews the adequacy of the Company's supply plan through the supply resources available to meet its demand and maintain its firm load sendout requirements. In reviewing the adequacy of a gas company's five-year supply plan, the Department first examines whether the company's base-case resource plan is adequate to meet its projected normal year, design year, design day, and cold-snap firm sendout requirements and, if so, whether the company's plan is adequate to meet its sendout requirements if certain supplies become unavailable. D.P.U. 93-13, at 62; 1992 Boston Gas Decision at 212-213; 1987 Berkshire Decision at 76. If the supply plan is not adequate under the base-case resource plan or not adequate under the contingency of existing or new supplies becoming available, then the company must establish that it has an action plan that will ensure that supplies will be obtained to meet its projected firm sendout requirements. D.P.U. 93-13, at 62; 1992 Boston Gas Decision at 212-213; 1987 Berkshire Decision at 76.

1. Normal Year, Design Year and Design Day Adequacy

a. Description

In normal and design year planning, a gas company must have adequate supplies to meet several types of requirements. D.P.U. 92-159, at 69. Berkshire presented supply plans for meeting its forecasted normal year sendout requirements throughout the forecast period (RR-DTE-6, at Tables G-22NH, G-22N). The Company explained that its supply resource portfolio is adequate to meet the normal demand requirements in the forecast period (Exh. BG-1, at 57). The Company assumed that customer migration will be stagnant through

the forecast period (id.). The Company explained that this migration is illustrated in the tables, and that current assets held by the Company will be maintained and not assigned to marketers (id.). Berkshire forecasts that normal year firm sendout requirements will increase from 3,083 MMcf in the 2004-2005 heating season to 3,272 MMcf in the 2008-2009 heating season (RR-DTE-6, at Table G-22NH).

Berkshire presented supply plans for meeting its forecasted design year sendout requirements throughout the forecast period (RR-DTE-6, at Tables G-22NH, G-22D). Berkshire explained that it plans to meet its normal year and design year heating season needs through existing pipeline supplies and the additional peaking resources from DOMAC LNG vapor, LNG vaporization and liquified propane vaporization (Exh. BG-1, at 57). Berkshire forecasts that design year firm sendout requirements will increase from 3,460 MMcf in the 2004-2005 heating season to 3,672 MMcf in the 2008-2009 heating season (RR-DTE-6, at Table G-22DH).

b. Analysis and Findings

As noted previously, the Department has found Berkshire's normal year sendout forecast to be reviewable, reliable, and appropriate (see Section II.D.4.b above). The Department also found the Company's design year sendout forecast to be reviewable, appropriate and reliable. Based on Berkshire's sendout and supply tables, the Company has demonstrated that it has adequate supplies through various sources to meet its forecast sendout requirements under normal and design year as well as design day, throughout the forecast period. Accordingly, the Department finds that Berkshire has established that the Company

has adequate supplies to meet its normal year, design year and design day forecast sendout requirements throughout the forecast period.

2. Cold-Snap Adequacy

a. Description

A cold-snap is a prolonged series of days at or near design conditions. D.P.U. 93-13, at 66; 1992 Boston Gas Decision at 217; Commonwealth Gas Company, 17 DOMSC 71, at 137 (1998) ("1998 Commonwealth Gas Decision"). A gas company must demonstrate that the aggregate resources available to it are adequate to meet this near maximum level of sendout over a sustained period of time, and that it has and can sustain the ability to deliver such resources to its customers. D.P.U. 93-13, at 66; 1992 Boston Gas Decision at 217; 1998 Commonwealth Gas Decision, at 137.

The Company explained that to meet the selected cold snap standard,[16] Berkshire would dispatch its full portfolio of pipeline supply volumes (Exh. BG-1, at 58). Berkshire also explained that it would supplement those supplies with vaporized LNG from its Whately facility as well as LP dispatched from its production facilities (id.). The Company noted that the total daily pipeline volume available to Berkshire is approximately 37 MMcf with an additional 5.9 MMcf of LP vaporization capacity available through its LP production facilities and 3.3 MMcf of LNG vaporization capacity available at the Whately facility (id.). The Company also explained that there would also be approximately 16.65 MMcf of marketer

16 As stated in Section II.C.2.e, Berkshire has defined a cold-snap as extreme cold weather occurring over ten consecutive days.

pipeline gas flowing during a cold snap (id.). Berkshire stated that its ample propane storage and production facilities together with its firm contract with Pittsfield Generating Company, L.P., (formerly Altresco) have provided adequate cold-snap volumes for its firm customers to date, and that its existing DOMAC resources would be an adequate replacement (id.).[17]

b. Analysis and Findings

The Department finds that Berkshire has employed an appropriate cold-snap standard for a company of its size and resources. Based on Berkshire's analysis, the Department finds that the Company has demonstrated that it has adequate supplies, particularly with the inclusion of the Whately LNG facility, to meet its firm sendout requirements during a prolonged cold-snap. Accordingly, the Department finds that Berkshire has established that its cold-snap supply plan is adequate to meet the Company's forecast sendout requirements throughout the forecast period.

4. Conclusions on the Adequacy of the Supply Plan

The Department has found that: (1) Berkshire's normal year and design year supply plans are adequate to meet the Company's forecasted sendout requirements throughout the forecast period; (2) the Company has demonstrated that it has adequate supplies to meet forecasted sendout requirements under design day conditions throughout the forecast period; and (3) the Company has demonstrated that it has adequate supplies to meet its firm sendout requirements during a cold snap. Based on these subsidiary findings, the Department finds that

17 The Company is replacing the Altresco resource with pipeline resources. See Berkshire Gas Company, D.T.E. 05-58 (2006); Berkshire Gas Company, D.T.E. 06-27 (pending).

Berkshire has established that it has identified adequate resources to meet its firm sendout requirements throughout the forecast period.

IV. ORDER

Accordingly, after due notice, hearing and consideration, it is

ORDERED: That The Berkshire Gas Company's petition for approval of its long-range forecast and supply plan for the period November 1, 2004 through October 31, 2009, be, and hereby is, APPROVED; and it is

FURTHER ORDERED: That The Berkshire Gas Company shall follow all directives contained herein.

By Order of the Department,

_____
Judith F. Judson, Chairman

_____
James Connelly, Commissioner

_____
W. Robert Keating, Commissioner

_____
Brian Paul Golden, Commissioner

Table 1: Berkshire Gas Company's Supply-Side Resources During the Forecast Period

Firm Transportation Contracts	**Maximum Daily Quantity**(MMBtu)	**Total Annual Contract Quantity**(MMBtu)	**Type of contract**
TGP Contract No. 8603	18,350	6,697,750	Long-haul/Short-haul
TGP Contract No. 2064/39175	1,057	385,805	365 days contract
TGP Contract No. 779	7,222	2,636,030	365 days contract
TGP Contract No. 10776	3,728	1,360,720	365 days contract
TGP Contract No. 584	1,305	476,325	365 days contract
Total	31,662	11,556,630	--------
Firm Storage Contracts	**Maximum Daily Withdrawal Quantity**(MMBtu)	**Maximum Daily Injection Quantity** (MMBtu)	**Assigned Storage Capacity** (MMBtu)
Tennessee FS-MA Contract No. 522	14,549	6,929	85,728
Dominion Transmission Inc., Contract No 300077	1,308	799	11,873
Total	15,857	7,728	79,601
Gas Supplies	**Maximum Daily Quantity** (MMBtu)	**Total Annual Contract Quantity** (MMBtu)	**Type of Supply**
Chevron Texaco	10,553	1,593,503	Domestic
Nexen Gas Marketing	1,057	385,505	Canadian
DOMAC LNG Vapor	2,000	302,000	Domestic
DOMAC LNG Liquid	2,000	88,000	Domestic
DOMAC LNG Vapor	7,500	225,000	Domestic

Total	23,110	2,594,008	--------
Berkshire's Supplemental Resources	**Maximum Daily Quantity**(MMBtu)	**Total Annual Contract Quantity**	**Storage Capacity** (MMBtu)
Propane Facilities	5,900	--------	54,000
Whately LNG Facility	3,000	--------	10,032
Total	8,900	--------	64,032

Source: Exh. BG-1 at 62-71.

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.